IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF NORTH CAROLINA
NORTHERN DIVISION

NO. 2:11-CV-35-FL

DEFENDERS OF WILDLIFE and NATIONAL WILDLIFE REFUGE ASSOCIATION, Plaintiffs, v. NORTH CAROLINA DEPARTMENT OF TRANSPORTATION; FEDERAL HIGHWAY ADMINISTRATION; JOHN F. SULLIVAN, III, Division Administrator, Federal Highway Administration; and EUGENE A. CONTI, JR., Secretary, North Carolina Department of Transportation, Defendants, and CAPE HATTERAS ELECTRIC MEMBERSHIP CORPORATION, Intervenor-Defendant.	)	ORDER

This matter comes before the court on motion of Defenders of Wildlife and National Wildlife Refuge Association (collectively "plaintiffs") for summary judgment (DE 74). Defendants North Carolina Department of Transportation ("NCDOT") and Eugene A. Conti, Jr. ("state defendants") responded and filed cross-motion for summary judgment (DE 79). Defendants Federal Highway Administration ("FHWA") and John F. Sullivan, III ("federal defendants") also filed response and

cross-motion for summary judgment (DE 81). The issues raised are ripe for adjudication. For the following reasons, plaintiff's motion is denied and defendants' cross-motions are granted.

STATEMENT OF THE CASE

Plaintiffs filed suit pursuant to the Administrative Procedure Act ("APA"), 5 U.S.C. §§ 701-706, raising claims against defendants for alleged violations of the National Environmental Policy Act of 1969 ("NEPA"), 42 U.S.C. §§ 4321-47, and Section 4(f) of the Department of Transportation Act of 1966 ("Section 4(f)").[1] Plaintiffs primarily allege that defendants failed to follow proper procedure in researching, designing, and choosing a replacement for the Herbert C. Bonner Bridge ("Bonner Bridge"), which spans the Oregon Inlet of North Carolina's Outer Banks.

The parties proposed a case schedule to consist first of the federal defendants' lodging of the administrative record, followed by the parties' cross-motions for summary judgment. The court adopted this plan by order entered November 1, 2011, and amended it on February 9, 2012, after allowing Cape Hatteras Electric Membership Corporation to intervene as a defendant.

On July 20, 2012, plaintiffs moved for summary judgment on the basis that defendants violated NEPA by: (1) impermissibly segmenting the action at issue; (2) failing to disclose and fully evaluate the direct, indirect, and cumulative impacts of the selected alternative; (3) failing to adequately analyze alternatives; and (4) failing to prepare a supplemental environmental impact statement ("SEIS"). Plaintiffs also moved for summary judgment pursuant to Section 4(f), claiming that defendants' selected alternative is prohibited because it uses a refuge. Defendants responded in opposition and filed cross-motions for summary judgment on September 5, 2012, arguing that the selected alternative meets the requirements of NEPA and Section 4(f).

[1] Due to the large number of acronyms and abbreviations in this case, a glossary of terms is attached.

STATEMENT OF UNDISPUTED FACTS

A. Bonner Bridge and Pea Island National Wildlife Refuge[2]

The project at issue, entitled "NC 12 Replacement of Herbert C. Bonner Bridge" (sometimes referred to as the "Project"), was developed by NCDOT, in collaboration with FHWA to secure federal funding. R. 58273-59058 (containing the 2008 Final Environmental Impact Statement ("FEIS")/Section 4(f) Evaluation for the Project). Bonner Bridge, which is part of North Carolina Highway 12 ("NC 12"), connects Bodie and Hatteras Islands in the Outer Banks by spanning 2.5 miles across Oregon Inlet. R. 58275, 58330-31. Bonner Bridge, owned by NCDOT, was built in 1962 and is approaching the end of its reasonable service life.[3] R. 91956. In 2002, Bonner Bridge carried about 5,400 vehicles per day, with peak tourist season traffic up to 10,900 vehicles per day. R. 58328-29. Ferries also provide emergency transportation between the islands, and were the sole means of transport before Bonner Bridge was constructed. R. 58369-70.

The southern end of Bonner Bridge lies in Pea Island National Wildlife Refuge ("Refuge"), which spans from the northern tip of Hatteras Island to the village of Rodanthe. R. 58499-501. The Refuge is almost twelve (12) miles long, but only 0.25 to 1 mile in width. R. 58538. The Refuge was established in 1938 by Executive Order of President Theodore Roosevelt in recognition of the importance of the area for wildlife preservation. R. 58537.[4] The Refuge is home to hundreds of species of migratory birds and other wildlife, including the piping plover (a shorebird designated as

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[2] For a map of the area described in this section, see Figure 1, infra.

[3] It is disputed, however, as to how much longer the bridge will remain safe for use.

[4] The Refuge is a Section 4(f) resource, with significant publicly owned recreation area and historic site. R. 58538.

threatened under the Endangered Species Act) and several threatened and endangered species of sea turtles that use the Refuge for nesting. R. 58599-601, 58730-40.

The Executive Order establishing the Refuge reserved the lands for the Refuge "subject to valid existing rights" – a restriction consistent with language in the Migratory Bird Conservation Act of 1929 (from which the Refuge was funded) specifically allowing pre-existing rights-of-way to remain when a property is acquired if the right-of-way is not incompatible with the Refuge function. 16 U.S.C. § 715(e). Later in 1938, the United States acquired the land for the Refuge through condemnation actions. R. 77-86. These acquisitions did not include existing public highways and public utility easements across the island. R. 78. At that time, the North Carolina State Highway and Public Works Commission, in cooperation with FHWA's predecessor agency, published a map of Dare County depicting both the Refuge and an "unimproved road" extending from Oregon Inlet, across the length of the Refuge to Rodanthe and points further south. R. 78363.

In 1954, the United States Department of Interior ("DOI") granted an easement for a 100-foot-wide right-of-way for the state of North Carolina to maintain a road, where NC 12 was built. R. 1108-10, 68660. NC 12 bisects the entire Refuge as it connects Bodie Island to Rodanthe. The Refuge is located on an unstable portion of Hatteras Island due to shoreline erosion. R. 58329. The result of the natural forces working on the Refuge, along with efforts to shore up the road, is a continual narrowing of the island and its beaches over time. The same forces also are causing Oregon Inlet to move. Since a storm created the inlet in 1846, the southern end of Bodie Island has moved over two miles southward (at an average of seventy (70) feet per year), as the southern end of Bodie Island accretes and the northern end of Hatteras Island erodes. R. 58329.

In 1991, scientists retained by NCDOT identified three "critical sections" or "hot spots" within the Refuge. R. 58326, 58329. These are the areas with the highest erosion rates (ranging from eight to fifteen (15) feet per year) and where the creation of new inlets is most likely to occur. R. 58329.

Because of Hatteras Island's erosion and westward movement, NCDOT has, over time, relocated NC 12 to the western-most edge of its right-of-way in many places within the Refuge, and occasionally outside the right-of-way. Each relocation required a special use permit from DOI. R. 75635-43, 77086-90. Travel on NC 12 frequently is disrupted, as storms and high tides make it impassable for anywhere from a few hours to a few weeks, usually at the hot spots identified by NCDOT. R. 36922-26 (listing seventeen (17) significant storm events in the area between 1991 and 2005); R. 59874-79, R. 77259-81, 77284 (correspondence and photos of storm damage to NC 12).

B. Preparation for Bonner Bridge Replacement

Planning began for a replacement in 1990 after severe deterioration of the steel and concrete supporting structures became apparent and a ship collision demolished several spans. R. 7603-25, 8568-69. Environmental studies for NEPA and other federal environmental laws were undertaken because NCDOT intended to construct the replacement bridge using Federal grant-in-aid funds administered by FHWA. See R. 9142-44.

In evaluating the Project under NEPA and Section 404 of the Clean Water Act, FHWA's North Carolina Division Office and NCDOT engaged in an interagency project development and permitting process referred to as the "Merger Team" with the United States Army Corps of Engineers ("USACE"), United States Environmental Protection Agency ("EPA"), United States Fish and Wildlife Service ("USFWS"), National Marine Fisheries Service ("NMFS"), National Park

Service ("NPS"), North Carolina Division of Environment and Natural Resources ("NCDENR"), and the North Carolina Department of Cultural Resources, State Historic Preservation Office ("SHPO"). R. 58878. The Merger Team meetings provided opportunities for agency participants to concur formally with key decisions in the NEPA process, such as the Project's purpose and need, the alternatives to be analyzed in detail, the Least Environmentally Damaging Practicable Alternative ("LEDPA"), and avoidance and minimization of harms. R. 58879, 83419. In the event that the Merger Team could not agree on a particular issue, the Merger Process included a dispute resolution procedure to resolve conflicts. R 83419. The Merger Process was agreed to by USACE, NCDENR, FHWA, and NCDOT, and supported by other partnering agencies and local units of government. R. 83419.

As noted above, the Project area is complex and the shoreline constantly is changing. R. 83436, 91956. Over a 19-year study period, FHWA and NCDOT jointly prepared 3,163 pages of environmental documentation, including: (1) a 1993 Draft Environmental Impact Statement ("DEIS")/Draft Section 4(f) Evaluation, R. 12522-954; (2) a 2005 Supplemental Draft Environmental Impact Statement ("SDEIS")/Draft Section 4(f) Evaluation, R. 31649-2197; (3) a 2007 Supplement to the Supplemental Draft Environmental Impact Statement ("SSDEIS")/Draft Section 4(f) Evaluation, R. 38890-9072; (4) a 2008 FEIS/Section 4(f) Evaluation, R. 58273-9571; (5) a 2009 Revised Final Section 4(f) Evaluation, R. 75556-5734; and, (6) a 2010 Environmental Assessment ("EA"), R. 83394-913.

FHWA and NCDOT released the 1993 DEIS/ Draft Section 4(f) Evaluation. R. 12522–954. It assessed multiple alternatives, while indicating that the Parallel Bridge Corridor across Oregon Inlet alternative was the "preferred alternative." R. 12562, 12587-612. After the release of the 1993

DEIS/ Draft Section 4(f) Evaluation, two public hearings were held. R. 32086, 91958. Federal, state, and local agencies, and other non-governmental organizations submitted comments on the 1993 DEIS/ Draft Section 4(f) Evaluation. R. 91958. A preliminary FEIS/Section 4(f) Evaluation was prepared in 1996, but was not formally completed. R. 15724.

In 2001, an informal re-evaluation was conducted to determine if the 1996 preliminary FEIS/Section 4(f) Evaluation remained a valid assessment of Project impacts, given the length of time that had passed since the 1993 DEIS/ Draft Section 4(f) Evaluation was completed. R. 1934, 19750-88, 20017-18. Following that informal re-evaluation process, FHWA and NCDOT published the 2005 SDEIS/Draft Section 4(f) Evaluation. R. 31649-2197. Work on the 2005 SDEIS/Draft Section 4(f) Evaluation commenced in 2002 with a new study of potential Bonner Bridge replacement alternatives. R. 20637, 20649. The area to be studied in the 2005 SDEIS/Draft Section 4(f) Evaluation was expanded south to encompass NC 12 to Rodanthe, due to concerns about shoreline erosion and overwash. R. 21007, 21012. The 2005 SDEIS/Draft Section 4(f) Evaluation assessed two potential corridors, the Pamlico Sound Bridge Corridor and the Parallel Bridge Corridor. R. 31765, 31783-84. Five alternatives within these two corridors were analyzed. R. 31913-32024. After the release of the 2005 SDEIS/Draft Section 4(f) Evaluation, two public hearings were held and comments on the document were solicited. R. 91958, 91960.

Based upon a proposal made during the 2005 SDEIS/Draft Section 4(f) Evaluation comment period, two additional Parallel Bridge Corridor alternatives were developed. R. 91960. These additional alternatives were analyzed in the 2007 SSDEIS/Draft Section 4(f) Evaluation, which was signed in February 2007. R. 38890-9072. Two public hearings on the 2007 SSDEIS/Draft Section 4(f) Evaluation were held. R. 91960.

On June 20, 2007, an informational Merger Team meeting was held to discuss funding issues regarding the Pamlico Sound Bridge Corridor alternative, along with alternatives that would involve a phased construction approach. R. 41303-16, 58838. FHWA and NCDOT presented details on the cost estimates for the detailed study alternatives in the 2007 SSDEIS/Draft Section 4(f) Evaluation. R. 41303-16, 58838. The cost estimates independently were reviewed by FHWA's Headquarter's Office of Bridge Technology as well as an independent bridge contractor, Finley Engineering. R. 41303-16, 58838. On August 27, 2007, NCDOT, FHWA, USACE, and NCDENR (these agencies comprise the Merger Dispute Resolution Board) concurred as part of the Merger Team Dispute Resolution process that the Parallel Bridge Corridor with a phased approach was the LEDPA. R. 58838, 59444-46.

On September 17, 2008, FHWA signed the 2008 FEIS/Section 4(f) Evaluation. R. 58273-9571. The 2008 FEIS/Section 4(f) Evaluation addressed the comments received on both the 2005 SDEIS/Draft Section 4(f) Evaluation and the 2007 SSDEIS/Draft Section 4(f) Evaluation and identified the Parallel Bridge Corridor with Phased Approach/Rodanthe Bridge as the "preferred alternative." R. 91960. The 2008 FEIS/Section 4(f) Evaluation was provided to eighteen (18) federal agencies, eleven (11) state agencies, fourteen (14) local agencies or governments, and twenty-three (23) interest groups and nongovernmental organizations. R. 69019. Copies of the 2008 FEIS/Section 4(f) Evaluation were made available for public review at six libraries or government offices in the local study area, as well as on the internet. R. 69019-20.

Comments on the 2008 FEIS/Section 4(f) Evaluation were accepted for a thirty-day period. R. 69020. Adverse comments were received from DOI, NMFS, EPA, NCDENR, and the Southern Environmental Law Center. R. 69020-21. To address the comments and concerns they received

about the 2008 FEIS/Section 4(f) Evaluation, NCDOT and FHWA worked through the Merger Team process. R. 63818-62. The EPA representative on Merger Team proposed that NCDOT should develop a modification of the 2008 FEIS/Section 4(f) Evaluation, and the Merger Team agreed. R. 70182-84, 70191-92. EPA suggested a new alternative which would combine Phase I of the 2008 FEIS/Section 4(f) Evaluation preferred alternative (the replacement bridge over Oregon Inlet) with an adaptive management and joint planning process for future decisionmaking in the southern portion of the Project area. R. 70182-84, 70191-92. EPA's proposal formed the basis for the new preferred alternative, which was called the "Parallel Bridge Corridor with NC 12 Transportation Management Plan" alternative. R. 75559-61.

In 2009, FHWA prepared a Revised Section 4(f) Evaluation to change several determinations in the prior Section 4(f) analysis, evaluate the new preferred alternative that had evolved at the Merger Team meetings, analyze the feasibility of the Pamlico Sound Bridge Corridor alternative, and reconsider the least overall harm determination in light of the new preferred alternative. R. 75556-90.

Since the 2008 FEIS/Section 4(f) Evaluation, FHWA and NCDOT had collected more information regarding the history of vehicular transportation across Bodie and Hatteras Islands, and the development of the Cape Hatteras National Seashore ("Seashore") and Refuge. R. 75564-69. The 2009 Revised Section 4(f) Evaluation examined the effect of the new Parallel Bridge Corridor with NC 12 Transportation Management Plan alternative, and concluded that the Pamlico Sound Bridge Corridor alternative—a long bridge totaling 17.5 miles—was not a prudent alternative because of its cost and the funding needed to construct a bridge of that magnitude in a single construction phase. R. 75574-76, 75698-714. Additionally, the 2009 Revised Section 4(f)

Evaluation concluded that the Pamlico Sound Bridge Corridor alternative would impact adversely the public's access to the Refuge. R. 75576.

On May 7, 2010, FHWA and NCDOT issued an EA. R. 83394–913. The 2010 EA was prepared to identify and assess changes that occurred since the completion of the 2008 FEIS/Section 4(f) Evaluation. The changes following the 2008 FEIS/Section 4(f) Evaluation were made in response to comments received on the 2008 FEIS/Section 4(f) Evaluation and in light of factors involving the continued existence and maintenance of NC 12 in the Seashore and Refuge. R. 91960. The 2010 EA discussed: (i) new information obtained since the publication of the 2008 FEIS/Section 4(f) Evaluation; (ii) refinements made to the detailed study alternatives since the release of the 2008 FEIS/Section 4(f) Evaluation; (iii) the elimination of the Pamlico Sound Bridge Corridor alternative as a detailed study alternative; (iv) the addition of a new detailed study alternative – the Parallel Bridge Corridor with NC 12 Transportation Management Plan alternative – and its selection as the preferred alternative going forward; (v) an assessment of impacts for the preferred alternative; and (vi) an evaluation of the changes to several of the remaining detailed study alternatives at both Rodanthe and at the northern end of Hatteras Island. R. 91960.

Following the publication of the 2010 EA, two additional public hearings were held in July 2010. R. 91960. After reviewing the comments received at the public hearings regarding the 2008 FEIS/Section 4(f) Evaluation and 2010 EA, FHWA determined that the changes identified in the 2010 EA did not result in any new significant impacts that were not previously identified in the earlier environmental documents, and another environmental impact statement ("EIS") was not required. R. 91960. The Merger Team agreed to a 2010 amendment to the August 27, 2007, Merger Team agreement stipulating that the Merger Team would be consulted about decisions on future

phases of highway construction. R. 83449, 83467-68. Although DOI had at one point raised objections to a preferred alternative, DOI ultimately did not object to the selection of the Parallel Bridge Corridor with NC 12 Transportation Management Plan alternative because appropriate permit conditions and mitigation to protect the Refuge would be put into place. R. 92063.

C. Selection of the Parallel Bridge Corridor with NC 12 Transportation Management Plan Alternative

FHWA's decisionmaking for the Project concluded on December 20, 2010 when the FHWA signed the Record of Decision ("ROD") approving the Parallel Bridge Corridor with NC 12 Transportation Management Plan alternative for implementation. R. 91952-2117. The ROD authorizes NCDOT to begin the final engineering design for a two-lane, adjacent replacement bridge over Oregon Inlet that will be built with eighty percent (80%) federal highway funds administered by FHWA. See R. 91986; 23 C.F.R. § 771.127. The ROD summarizes the environmental issues that were encountered; the numerous bridge, ferry, and no action alternatives that were considered; the coordination undertaken with the public and federal, state, and local agencies; and mitigation measures that NCDOT will be required to implement in order to receive the federal funds. R. 91952-2117. The ROD also included FHWA's responses to comments submitted on the 2010 EA. R. 92042-99.

In addition to authorizing the replacement of Bonner Bridge within a parallel corridor, referred to as "Phase I," the ROD addressed the fact that the environmental studies anticipated that additional federally-funded NC 12 repairs will be necessary on Hatteras Island in the future due to shoreline erosion and storms. R. 91967, 91970, 91983. The portion of NC 12 the 2008 FEIS/Section 4(f) Evaluation studied for future phases of repair as part of the Project extends from

the southern end of Bonner Bridge to Rodanthe, a distance of approximately 12.5 miles. The future shoreline conditions along NC 12 were forecasted through the year 2060. R. 91956.

The ROD explains that FHWA decided not to approve any particular action beyond the limits of Phase I because of the inherent uncertainty in predicting future conditions within a dynamic coastal barrier island environment. R. 91967. Instead, FHWA approved a detailed plan that requires NCDOT to monitor, study, and conduct additional agency and public coordination before coming back to FHWA for approval to implement each future phase of NC 12 repair, which is called the "NC 12 Transportation Management Plan." R. 91959 (map depicting Phase I and NC 12 Transportation Management Plan); R. 91967-70. Future phases will be subject to further NEPA documentation and permits, as appropriate. R. 91970-83.

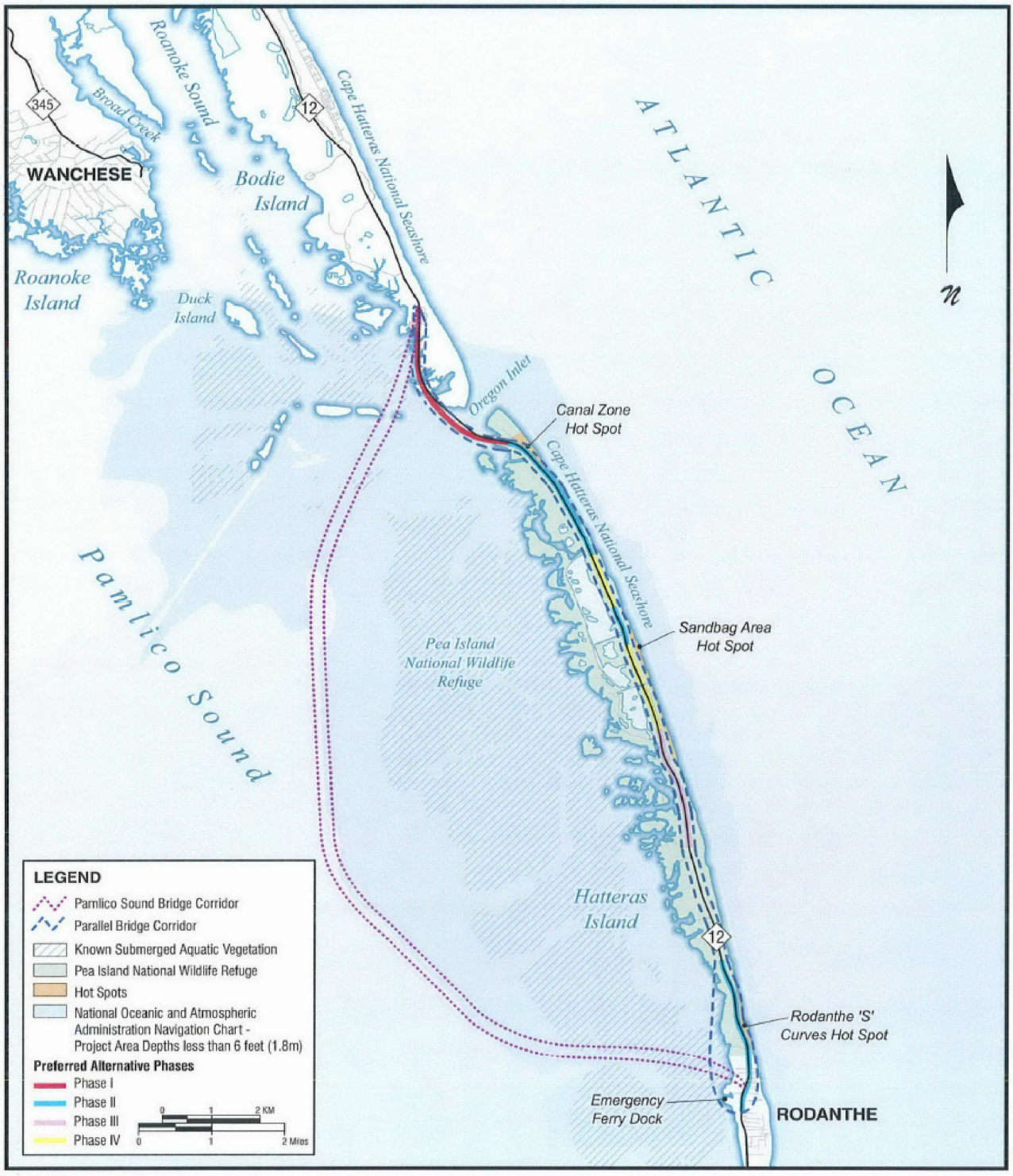
D. Proposed Alternatives[5]

1. Pamlico Sound Bridge Corridor Alternative

The Pamlico Sound Bridge Corridor alternative is a proposed long bridge totaling 17.5 miles, which would travel from Bodie Island to Rodanthe through the Pamlico Sound. It would bypass the Refuge completely. See Figure 1 below. If built, the Pamlico Sound Bridge would be the second longest bridge in the United States and one of the longest bridges in the world.[6] R. 75711.

[5] As indicated above, many alternatives were considered. The court limits its discussion in this section to the two alternatives at issue in this case.

[6] The cost estimates vary broadly from $420 million to $1.7 billion for building the Pamlico Sound Bridge Corridor alternative. Plaintiffs claim that the higher range estimates are inflated, but are still less than some estimates for providing transportation improvements from Bodie Island to Rodanthe under the selected alternative. These costs do not include the extra costs asserted by intervenor, a rural electric cooperative which provides electric power service to Hatteras Island. Intervenor claims that its transmission line currently runs along the bottom of Bonner Bridge. Intervenor claims it will have to pay for a new transmission line attached to the new bridge, and estimates its costs alone to be $12 million under the Parallel Bridge Corridor with NC 12 Transportation Management Plan alternative and $53 million under the Pamlico Sound Bridge Corridor alternative.



R. 58276 ("Figure 1").

On September 10, 2003, following its July 23, 2002 meeting, the Merger Team selected the Pamlico Sound Bridge Corridor alternative as the sole alternative to be studied in detail for the Project, having determined that the Parallel Bridge Alternatives could not receive certain approvals required under federal law, including a compatibility determination required by the National Wildlife Refuge System Improvement Act of 1997.[7] R. 80895 (concurrence form); R. 23293 (minutes of July 23, 2003 Merger Team meeting); R. 58389. NCDOT explained the selection of the Pamlico Sound Bridge Corridor alternative to local government officials in Dare County, where the Project would be located, stating that a parallel replacement bridge in Oregon Inlet was "no longer viable." R. 80897 (June 20, 2003 letter from Tippett to Judge); see also R. 80899, DE 315 (June 26, 2003 letter from Bryant).

There is some evidence that certain state officials did not support the Pamlico Sound Bridge Corridor alternative, wanted to revert to one of the Parallel Bridge Alternatives, and voiced their concerns to defendants and other government entities. R. 80904-06 (letter from Basnight to Easley stating that building the Pamlico Sound Bridge Corridor alternative would cost $260 million, but funding allocated for the Project is only $120 million, which would require other projects in the state to be set aside or set back and voicing concern as to citizens' access to the Refuge); R. 26249-51 (letter from White to Tippett expressing disappointment in NCDOT's handling of the replacement of Bonner Bridge); R. 26000 (April 1, 2004, letter from Tippett to Jones responding to concerns by stating that "the 17-mile long bridge [is] the only currently proposed reasonable, feasible, and practicable alternative for replacing the Bonner Bridge"); R. 22661-62 (letter from Dare County

[7] Among other things, this Act prohibits the use of National Wildlife Refuge land for purposes that are incompatible with the mission of the Refuge, 16 U.S.C. § 668dd(d)(3)(A)(i).

Board of Commissioners to state and federal government entities expressing concern over public access to the Refuge).

The Pamlico Sound Bridge Corridor alternative meets the purpose and need of the Project by providing continued access to Hatteras Island. R. 58836. It would take approximately two minutes longer for emergency response to use the Pamlico Sound Bridge Corridor alternative than the Parallel Bridge Corridor with Transportation Management Plan alternative. R.58835. Under the Pamlico Sound Bridge Corridor alternative, paved road access to the Refuge would not be retained. R. 58835. Both the Pamlico Sound Bridge Corridor alternative and the Parallel Bridge Corridor with Transportation Management Plan alternative adequately take into consideration shoreline migration and channel migration to 2050. R. 58835. However, defendants found that the Pamlico Sound Bridge Corridor alternative could not "reasonably be built because of lack of available funding and the inability to phase the Project in operational segments." R. 58836.

2. High Speed Ferries

In the 1993 DEIS, defendants decided not to study the use of ferries in detail due to costs, reduction in traffic service despite increased demand, and the requirement of dredging to maintain a navigation channel. R. 12597-602. High speed ferries in particular were considered to be an unworkable alternative. R.92092-93. The existing ferry service in North Carolina carries 1.1 million vehicles per year on seven routes, while Bonner Bridge carried 1.9 million vehicles in 2002 and is projected to carry 3.5 million vehicles in 2025. R. 92094. Thus, the ferry facilities currently in place for emergency use would need to be greatly expanded. R. 58370, 92093. Use of a ferry would also likely require dredging, which causes substantial environmental damage. R. 58368-71.

DISCUSSION

Summary judgment is appropriate where "the movant shows that there is no genuine dispute as to any material fact and the movant is entitled to judgment as a matter of law." Fed. R. Civ. P. 56(a); see also Anderson v. Liberty Lobby, 477 U.S. 242, 247-48 (1986) (holding that a factual dispute is "material" only if it might affect the outcome of the suit and "genuine" only if there is sufficient evidence for a reasonable jury to find for the non-moving party). The party seeking summary judgment bears the initial burden of demonstrating the absence of any genuine issue of material fact. Celotex Corp. v. Catrett, 477 U.S. 317, 323 (1986). Once the moving party has met its burden, the nonmoving party then must affirmatively demonstrate with specific evidence that there exists a genuine issue of material fact requiring trial. Matsushita Elec. Indus. Co. Ltd. v. Zenith Radio Corp., 475 U.S. 574, 586-87 (1986).

Summary judgment is not a vehicle for the court to weigh the evidence and determine the truth of the matter, but to determine whether a genuine issue exists for trial. Anderson, 477 U.S. at 249. In making this determination, the court must view the inferences drawn from the underlying facts in the light most favorable to the nonmoving party. United States v. Diebold, Inc., 369 U.S. 654, 655 (1962). Only disputes between the parties over facts that might affect the outcome of the case properly preclude the entry of summary judgment. Anderson, 477 U.S. at 247-48. Accordingly, the court must examine the materiality and the genuineness of the alleged fact issues in ruling on this motion. Id. at 248-49.

Pursuant to the APA, a person "adversely affected or aggrieved by agency action . . . is entitled to judicial review thereof." 5 U.S.C. § 702. "The reviewing court shall . . . hold unlawful and set aside any agency action, findings, and conclusions found to be . . . arbitrary, capricious, an

abuse of discretion, or otherwise not in accordance with law." 5 U.S.C. § 706(2)(A).

> [A] reviewing court must consider whether the decision was based on a consideration of the relevant factors and whether there has been a clear error of judgment . . . . Although this inquiry into the facts is to be searching and careful, the ultimate standard of review is a narrow one. The court is not empowered to substitute its judgment for that of the agency.

Fort Sumter Tours, Inc. v. Babbitt, 66 F.3d 1324, 1335 (4th Cir. 1995) cert. denied, 517 U.S. 1220 (1996) (internal quotation marks omitted).

Under this narrow standard of review, the court "must ensure that the agency has examined the relevant data and articulated a satisfactory explanation for its action, and must not reduce itself to a rubber-stamp of agency action." N.C. Wildlife Fed'n v. N.C. Dep't of Transp., 677 F.3d 596, 601 (4th Cir. 2012) (internal citations and quotation marks omitted); see also Shenandoah Valley Network v. Capka, 669 F.3d 194, 196 (4th Cir. 2012) ("Claims arising under NEPA are subject to judicial review pursuant to the [APA]."); Hickory Neighborhood Def. League v. Skinner, 893 F.2d 58, 61 (4th Cir. 1990) (applying the deferential standard in the APA when considering a claim pursuant to Section 4(f)).

A. NEPA Claims

NEPA was enacted with the recognition that America "has in many areas overdrawn its bank account in life-sustaining natural elements." S. Rep. No. 296, 91st Cong., 1st Sess. at 16 (1969). Its purpose is "to establish . . . a national policy to guide federal activities which are involved with or related to the management of the environment or which have an impact on the quality of the environment." Id. at 8. Section 102(1) of NEPA commands that "the policies, regulations, and public laws of the United States shall be interpreted and administered in accordance with the policies set forth in [this Act]." 42 U.S.C. § 4332(1). NEPA includes a range of "action forcing procedures

that require that agencies take a hard look at [the] environmental consequences" of a proposed project. Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 350 (1989) (internal quotation marks omitted).

NEPA does not mandate a particular outcome, but rather describes the process necessary to reach an informed decision. Robertson, 490 U.S. at 351 (recognizing that NEPA "merely prohibits uninformed–rather than unwise–agency action"). However, proper compliance with procedures "are almost certain to affect the agency's substantive decision." Robertson, 490 U.S. at 350. An agency's decision may be based on "factors including economic and technical considerations and agency statutory missions," as well as "any essential considerations of national policy which were balanced by the agency." 40 C.F.R. § 1505.2(b). The agency must also evaluate "reasonably foreseeable significant adverse effects on the human environment," which are known as the cumulative impacts. 40 C.F.R. §§ 1502.22 and 1508.7 (latter section defining cumulative impact as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency... or person undertakes such other actions"). NEPA requires preparation of an EIS for any major federal action that significantly affects the quality of the "human environment." 42 U.S.C. § 4332(2)(c).

1. Segmentation

Under NEPA, agencies must prepare an EIS for any "major [f]ederal actions significantly affecting the quality of the human environment." 42 U.S.C. § 4332(2)(C). "Proposals or parts of proposals which are related to each other closely enough to be, in effect, a single course of action shall be evaluated in a single impact statement." 40 C.F.R. § 1502.4. Thus, actions that are "connected," meaning "closely related," should be considered together in one EIS. 40 C.F.R. §

1508.25(a). "Actions are connected if they: (i) Automatically trigger other actions which may require environmental impact statements. (ii) Cannot or will not proceed unless other actions are taken previously or simultaneously. (iii) Are interdependent parts of a larger action and depend on the larger action for justification." 40 C.F.R. § 1508.25(a)(1).

Furthermore, the scope of an EIS, includes "[c]umulative actions, which when viewed with other proposed actions have cumulative significant impacts and should therefore be discussed in the same [EIS]." 40 C.F.R. § 1508.25. Thus, agencies must consider connected actions and cumulative actions in the same EIS. "This requirement is intended to prevent agencies from engaging in [improper] segmentation, which involves 'an attempt to circumvent NEPA by breaking up one project into smaller projects and not studying the overall impacts of the single overall project.'" Webster v. U.S. Dep't of Agric., 685 F.3d 411, 426 (4th Cir. 2012) (quoting Coal. On W. Valley Nuclear Wastes v. Chu, 592 F.3d 306, 311 (2nd Cir. 2009) and SPARC v. Slater, 352 F.3d 545, 559 (2nd Cir. 2003)); see also Maryland Conservation Council v. Gilchrist, 808 F.2d 1039 (4th Cir. 1986) ("We are committed to the proposition that when a major federal action is undertaken, no part may be constructed without an EIS.").

Segmentation of a road construction project should be avoided, but may still be done properly if the action:

> (1) connect[s] logical termini and [is] of sufficient length to address environmental matters on a broad scope; (2) ha[s] independent utility or independent significance, i.e., be usable and be a reasonable expenditure even if no additional transportation improvements in the area are made; and (3) [will] not restrict consideration of alternatives for other reasonably foreseeable transportation improvements.

23 C.F.R. § 771.111(f). Conversely, segmentation is improper when "the segmented project has no independent utility, no life of its own, or is simply illogical when viewed in isolation." SPARC, 352

F.3d at 559.

Courts often uphold an agency's determination of scope for a transportation project under the deferential standard of review the agency is afforded, particularly in circumstances, as here, where a project presents unique geographical circumstances involving bridges and islands. See, e.g., Highway J Citizens Grp. v. Mineta, 349 F.3d 938, 962-63 (7th Cir. 2003) (finding that defendants did not impermissibly segment a 1.3-mile bridge construction project from an abutting 18.1-mile highway widening project); Conservation Law Found. v. Fed. Highway Admin., 24 F.3d 1465, 1472-73 (1st Cir. 1994) (finding that two bridges on either side of an island over Narragansett Bay were "perfectly logical termini," and thus the project was not improperly segmented); Vill. of Los Ranchos de Albuquerque v. Barnhart, 906 F.2d 1477, 1483-84 (10th Cir. 1990) (evaluating the proposed construction of a bridge across the Rio Grande River and finding no segmentation where the terminus was a logical one, even though it may not be the most logical terminus). The parties have not identified and the court does not find any Fourth Circuit case providing segmentation analysis for a transportation construction project that includes bridges and islands.

a. Logical Termini

Turning first to consideration of "logical termini" and "sufficient length,"as set out in 23 C.F.R. § 771.111(f), the FHWA defines "logical termini" as "major crossroads, population centers, major traffic generators, or similar major highway control elements." 37 Fed. Reg. 21,810. When considering the question of using bridges as termini, the First Circuit has reasoned for example: "Although the FHWA is not free to consider every bridge or culvert in a highway system to be a suitable end point for purposes of conducting EIS analysis, two bridges over . . . a considerably large body of water, can reasonably constitute a major 'highway control element,' . . . [and] appear to be

perfectly logical termini to us." Conservation Law Found., 24 F.3d at 1472 (quoting 37 Fed. Reg. 21,810). See also Vill. of Los Ranchos de Albuquerque, 906 F.2d at 1482-84 (rejecting plaintiffs' argument of illegal segmentation of a federally funded project and state bridge project, where the two projects were "at best, only peripherally related" and the bridge project had logical termini).

In this case, defendants chose to consider Phase I as a three-mile span across the Oregon Inlet because of the unique nature of the Outer Banks, and especially due to concerns as to changing conditions and weather events impacting the shoreline on Hatteras Island. In this context, the northern end of Hatteras Island constitutes a logical terminus for the Project.

Plaintiffs argue that the logical termini for this Project are Bodie Island and Rodanthe, as that corridor connects two population centers. However, the factual circumstances surrounding this case are unique. Selecting proper termini for a project that spans Bodie and Hatteras Islands is difficult given the physical movement of those barrier islands and susceptibility of the Project area to storm damage. Defendants considered and rejected plaintiffs' proposed termini, and chose to use a phased approach instead after years of study. Given that agencies are only required to select "logical termini" and not the "most logical" termini, the court finds that the Bonner Bridge replacement complies with the first requirement of 23 C.F.R. § 771.111(f). See Vill. of Los Ranchos de Albuquerque, 906 F.2d at 1483 ("That a terminus is the most logical is not mandated by the segmentation analysis-that analysis requires only that a terminus be 'logical.'").[8]

[8] The court notes also that this factor has been considered to hold less weight than the other two considered infra. See New River Valley Greens v. U.S. Dep't of Transp., No. 97-1978, 1998 WL 633959, at *3 (4th Cir. Sept. 10, 1998) (unpublished per curiam opinion) ("The hallmarks of segmentation are where the proposed component action has little or no independent utility or involves such a large and irretrievable commitment of resources that it may virtually force a larger or related project to go forward notwithstanding the environmental consequences."); Conservation Law Found., 24 F.3d at 1472.

b. Independent Utility

The court next considers the "independent utility" of the proposed alternative without making "additional transportation improvements in the area." 23 C.F.R. § 771.111(f)(2). Therefore, the independent utility of the proposed segment must be "substantial." Wilds v. S.C. Dep't of Transp., 9 Fed. App'x 114, 120 (4th Cir. 2001). "Independent utility does not have to be maximum utility, but it does require that the segmented portion is a reasonable expenditure . . . ." W. N.C. Alliance v. N.C. Dep't of Transp., 312 F. Supp. 2d 765, 774 (E.D.N.C. 2003) (internal citations and quotation marks omitted). For example, a plan to build a highway loop around a metropolitan area may be segmented for NEPA evaluation because each part of the loop has substantial independent utility in relieving traffic congestion, even if the maximum utility of that segment will not be achieved until the entire loop is completed. See N.C. Alliance for Transp. Reform, Inc. v. U.S. Dep't of Transp., 151 F. Supp. 2d 661, 683 (M.D.N.C. 2001). Furthermore, the replacement of a structure that is nearing the end of its service life has been found to have independent utility. See Highway J Citizens Grp., 349 F.3d at 963 (recognizing that "independent utility is the most important factor" and that replacement of a bridge for safety purposes had independent utility from widening the connecting highway).

In this case, defendants chose to replace a bridge reaching the end of its service life with a parallel bridge, while leaving open future plans to further construct later phases to Rodanthe. Bonner Bridge is nearing the end of its service life, and has been under consideration and study for replacement since its structural integrity first was questioned in 1990. The proposed bridge replacement would connect to the existing transportation corridor, and provide access to the Refuge. Therefore, the Parallel Bridge Corridor with NC 12 Transportation Management Plan alternative is

a reasonable expenditure independent of additional transportation improvements, which defendants also plan to make in future phases.

Plaintiffs assert that the replacement of Bonner Bridge will not be usable unless it contemplates a larger section of the Outer Banks because of high erosion. See R. 64433 (NCDOT email explaining that impassible "hot spots" of erosion leading up to the bridge would make it useless). Therefore, they contend, the utility of replacing Bonner Bridge is lost without additional construction through the entire Refuge on Hatteras Island. Plaintiffs note that NC 12 has been cut off twice in recent history, due to tropical storm Ida in 2009 and hurricane Irene in 2011, requiring extensive repairs and expenditures to reopen access to Hatteras Island. While it is true that NC 12 requires maintenance, especially in the hot spots subject to erosion on Hatteras Island, that does not ruin the substantial utility of replacing a bridge that is reaching the end of its service life. See Highway J Citizens Grp., 349 F.3d at 963; N.C. Alliance for Transp. Reform, 151 F. Supp. 2d at 683.

c. Restrictions on Future Phases of the Project

In Maryland Conservation Council, the Fourth Circuit considered not only the utility of the proposed component of highway construction, but also whether the component was designed in a way that would virtually force the agency to approve a later component as "a *fait accompli*." 808 F.2d at 1042-43. Accordingly, the court must consider whether the "project would violate NEPA by limiting the choice of reasonable alternatives available to federal decision-makers." State of N.C. v. City of Virginia Beach, 951 F.2d 596, 602 (4th Cir.1991) (internal quotation marks and citations omitted). That is, the court considers whether the completion of the first component has "a direct and substantial probability of influencing" the agency's decisions as to future components. Id. at 603.

It is undisputed that the entire highway from Bodie Island to Rodanthe will need to be replaced, and defendants have considered that reality while developing the EIS. However, the current EIS only covers the Bonner Bridge replacement, with future studies planned for later construction phases along the NC 12 corridor. Therefore, no particular action is "automatically triggered" in later phases. See 40 C.F.R. § 1508.25(a). In this case, unlike in Maryland Conservation Council, defendants seek to build a replacement bridge without forcing any particular course of action in relation to subsequent components. See 808 F.2d at 1042-43.

Plaintiffs argue that the construction of Bonner Bridge as proposed would diminish the options available for the completion of subsequent phases in violation of NEPA. They argue that the two alternatives that plaintiffs seek to have considered, the Pamlico Sound Bridge Corridor alternative that bypasses the Refuge or a high speed ferry system, would both be foreclosed if Bonner Bridge is replaced as proposed. However, a bridge system or ferry system or some combination may still be considered and adopted along Hatteras Island in later phases. This approach, as defendants note, reflects the unique properties of that barrier island, which is subject to constant change and migration. Thus, the Bonner Bridge replacement "contemplates, rather than restricts, future roadway projects." See Highway J Citizens Grp., 349 F.3d at 963.

In sum, in light of the logical termini, independent utility, and lack of restrictions on future improvements, the court ultimately finds, under the deferential standard set forth in the APA, that the defendants did act reasonably when they chose to consider construction from Bodie Island to Rodanthe in phases. The court recognizes the unique geography present in this case is especially compelling. For all of the above reasons, the court finds that the Bonner Bridge replacement was not improperly segmented.

2. Disclosure and Evaluation of the Impacts of the Parallel Bridge Corridor with NC 12 Transportation Management Plan Alternative

Plaintiffs challenge the disclosure and evaluation of the impacts of the selected alternative.[9] Many of plaintiffs' arguments rely heavily upon the premise that defendants committed illegal segmentation, asserting that the remaining phases of the Project are ambiguous. As the court found no illegal segmentation in this case, it need only address the argument that remains, namely that defendants failed to disclose and evaluate the direct impacts of the terminal groin and the indirect effects of the selected alternative.

Part of the agencies' analysis under NEPA includes assessing the environmental impacts of a project to provide the "scientific and analytic basis for the comparison" of alternatives. 40 C.F.R. § 1502.16. "As part of this analysis agencies *must* measure the indirect and cumulative environmental effects of proposed actions. Conclusory statements that the indirect and cumulative effects will be minimal or that such effects are inevitable are insufficient under NEPA." N.C. Wildlife Fed'n v. N.C. Dep't of Transp., 677 F.3d 596, 602 (4th Cir. 2012) (internal citations omitted).

a. Terminal Groin

The terminal groin is a rock structure that was built on the northern end of Hatteras Island to protect the southern terminus of Bonner Bridge. R. 58775. The parties dispute whether the terminal groin must be considered as part of the agencies' calculation of a no-build baseline (also referred to as a no-action baseline) alternative. See 40 C.F.R. § 1502.14(d) (requiring the inclusion

[9] Plaintiffs also challenged the agencies' analysis of cumulative impacts, relying heavily on arguments relating to phasing of the Project. It follows from the court's analysis of segmentation above that the agencies' analysis of future phases, including cumulative impacts, is not insufficient as there was no illegal segmentation.

of "the alternative of no action" in an EIS). Accurate baseline data allows an agency to "carefully consider information about significant environmental impacts." N.C. Wildlife Fed'n, 677 F.3d at 603 (internal citations omitted). The no-build baseline in an EIS facilitates the comparison of the environmental consequences of the "status quo" to the proposed action. See Ctr. for Biological Diversity v. U.S. Dep't of Interior, 623 F.3d 633, 642 (9th Cir. 2010); Town of Winthrop v. Fed. Aviation Admin., 535 F.3d 1, 4 (1st Cir. 2008); City of Shoreacres v. Waterworth, 420 F.3d 440, 451 (5th Cir. 2005); Custer Cnty. Action Ass'n v. Garvey, 256 F.3d 1024, 1040 (10th Cir. 2001).

For example, in American Rivers, an agency conducted NEPA review of the proposed re-licensing of two hydroelectric power facilities. Am. Rivers v. Fed. Energy Regulatory Comm'n, 201 F.3d 1186, 1191-92 (9th Cir. 1999). The agency characterized its no-action baseline alternative in the EIS as the continued operation of facilities under the terms of their original license, and did not give a "lengthy evaluation" of the alternative of license denial, which would entail dam removal. Id. at 1200-201. The Ninth Circuit found that this baseline analysis satisfied the requirements of NEPA. Id.

Similarly, in this case the agencies used the continuing existence of the terminal groin in their no-action baseline. R. 58775-80. Defendants did give some consideration as to both retention and removal of the groin. E.g., R. 58647 (the groin's halting of the southward migration of Hatteras Island); R. 58550 (accretion of Hatteras Island with the groin in place); R. 58551 (a deeper and narrower inlet); R. 58554-55 (erosion developing on the estuarine side of the groin, which could lead to a breach); R. 58561-62 (inlet dynamics assuming the groin in place); R. 58562-64 (inlet dynamics assuming removal of the groin, including potential merging of the inlet with the Refuge's northern pond); R. 58561-62 (impacts on navigation); R. 58647, 58771, 58780 (adverse effect on the historic

former United States Coast Guard Station because it could be "washed away" if the groin is removed); R. 58655, 58781 (interference with the Refuge's and Seashore's goal of not stabilizing the Outer Banks artificially); R. 58664 (performance of the groin); R. 58670 (possibility of a breach near the groin); R. 58677, 58680-81, 58733 (use of the groin fillet for sand mining and its ability to provision foraging habitat for piping plovers); R.58567, 58729, 058733, 058753 (proximity of the groin to critical habitat for the piping plover).

Plaintiffs argue that the impact of retaining the terminal groin must be examined pursuant to NEPA, and that it has a significant negative impact on the Refuge. Plaintiffs specifically assert that the terminal groin was permitted only for the protection of the existing Bonner Bridge, and that the terminal groin thus is not properly considered as part of the status quo for a Bonner Bridge replacement. Even presuming that a new permit will be required for the selected alternative, which defendants dispute, the agencies are not required to consider whether the terminal groin would lose its permit. See Am. Rivers, 201 F.3d at 1200-201. "No action" in this case would logically entail retaining both the terminal groin and Bonner Bridge. See 40 C.F.R. § 1502.14(d).

Plaintiffs also assert that defendants failed to consider adequately the impact of retaining the groin, which defendants dispute. In consideration of the extensive evidence in the record, the court finds that defendants did adequately analyze the impact of terminal groin retention pursuant to NEPA. However, even assuming that the agencies did not provide in-depth analysis of removal of the groin, plaintiffs' argument must fail. See Am. Rivers, 201 F.3d at 1201 (asserting that the agency was not required to do more than briefly discuss dam removal to meet the requirements of NEPA). Thus, the terminal groin was adequately considered pursuant to NEPA as part of the status quo for a no-action baseline alternative.

b. Other Indirect Impacts

Plaintiffs raise issue with the analysis of zone scour impacts that might result from constructing bridges in the NC 12 easement. The record reflects, however, eight pages of analysis in the 2008 FEIS/Section 4(f) Evaluation, and reliance on field data collected over decades from different research piers. R. 58671-80, 38991-94, 68488-89. The analysis conducted factored in the configuration and orientation of the piers in the studies, along with several other factors, when considering scour impacts. R. 58671-78. The record shows that other indirect impacts of both Phase I and future construction alternatives were considered, including public access to the Refuge, future preservation of the former Coast Guard station, the location of utilities, shoreline development and use of the Outer Banks, future development and redevelopment, and the relocation or protection of portions of NC 12. R. 58774-77. Studies of the impact of new storm breaches spanned fifty (50) years. R. 58628-33.

Agencies must take a "hard look" at the environmental impacts, including indirect impacts, of building the Parallel Bridge Corridor with NC 12 Transportation Management Plan. See Webster v. U.S. Dep't of Agriculture, 685 F.3d 411, 425 (4th Cir. 2012). However, the court "may not seize upon trivial inadequacies to reject the agency's decision for that would impermissibly intrude into its decisionmaking prerogative." Id. In consideration of the agencies' study of indirect impacts, the court finds that the agencies have taken a "hard look" at the Project's environmental effects. See id.

3. Analysis of Project Alternatives

The "heart" of an EIS is the alternatives analysis, which "should present the environmental impacts of the proposal and the alternatives in comparative form." 40 C.F.R. § 1502.14. The regulations require the agency to "evaluate all reasonable alternatives" and discuss the reasons for

the elimination of alternatives from the study, as well as mitigation efforts related to each alternative. 40 C.F.R. § 1502.14(a), (f). The agency is then required to describe the affected environment in sufficient detail "to understand the effects of the alternatives." 40 C.F.R. § 1502.15. Finally, the regulations require the agency to conduct a detailed examination of the environmental consequences on the affected environment, including direct and indirect effects and their significance, the environmental effects of alternatives, and mitigation measures to the extent they were not covered under the alternatives analysis. 40 C.F.R. § 1502.16.

a. Pamlico Sound Bridge Corridor Alternative

Plaintiffs accuse defendants of abandoning their once preferred alternative, for a long bridge over the Pamlico Sound from Bodie Island to Rodanthe, because of improper political influence, which then resulted in skewed cost estimates for the Pamlico Sound Bridge Corridor alternative and a failure to adequately assess funding sources.

While there is some evidence that politicians participated in the NEPA process, and voiced their concerns as to building a long bridge because of its potential to limit means of public access, this is the type of participation and commentary that NEPA processes seek to extract. The agencies thoroughly studied the Pamlico Sound Bridge Corridor alternative, even after the alleged political pressure was brought to bear in 2003 and 2004. Plaintiffs rely upon International Snowmobile to assert that a decision made pursuant to political pressure is arbitrary and capricious. Int'l Snowmobile Mftrs. Ass'n v. Norton, 304 F. Supp. 2d 1278, 1291 (D. Wyo. 2004). In that case, the court granted a preliminary injunction based in part upon the fact that a draft EIS concluded that snowmobile access was consistent with all applicable laws, but a memorandum later directed the agency to prohibit snowmobile access, and that prohibition was in the final EIS. Id. International

Snowmobile is inapposite because that court found a failure to take a hard look at the environmental impacts of snowcoaches in the parks. Id. Here, defendants studied the Pamlico Sound Bridge Corridor alternative in detail. The agencies rejected the Pamlico Sound Bridge Corridor alternative only because of careful and extensive research as to the feasibility and prudence of the Project. See infra Discussion Part B.

Furthermore, the record indicates a thorough review and consideration of costs, with detailed explanations as to why cost estimates for all of the alternatives rose over time. E.g., R. 58480-85 (examining estimated costs through 2060 for seven replacement bridge corridor alternatives under consideration and explaining why estimates rose between 2005 and 2006); R. 38665-71 (showing the 2007 cost estimates generated by an independent specialty engineering firm hired to assess costs by NCDOT). Therefore, the cost estimates as to the Pamlico Sound Bridge Corridor alternative were reasonable, and did not violate NEPA. See Nw. Envtl. Advocates v. Nat'l Marine Fisheries Serv., 460 F.3d 1125, 1145 (9th Cir. 2006) (finding no NEPA violation where independent experts reviewed costs and concluded agency's analyses were reasonable). The problem with the cost of building the Pamlico Sound Bridge Corridor alternative was not that it had a substantially different price than the selected alternative when considered with the later phases to come. The issue the agencies ran into was paying for the bridge all at once. In the selected alternative, defendants have the ability to phase building out over fifty (50) years to cover the twelve (12) mile stretch from Bodie Island to Rodanthe. The Pamlico Sound Bridge Corridor alternative cannot be phased, and so the entire cost of the bridge would have to be raised in a lump sum.

Plaintiffs further assert that defendants did not adequately analyze sources of funding to complete the Pamlico Sound Bridge Corridor alternative because of their consideration of funding

cycles pursuant to state law and a failure to investigate other sources of funding. As to the agencies' consideration of funding cycles, the court finds that this was a reasonable way to consider costs according to the funding periods mandated by state statute when examining possible sources of funding through state government. See R. 93853. Defendants reasonably considered the legitimate need to replace Bonner Bridge in the near future within the context of funding pursuant to current state and federal laws. NEPA does not require agencies to lobby for new funding laws or speculate as to how funding might be obtained if such efforts were successful. See NRDC v. Callaway, 524 F.2d 79, 93 (2nd Cir. 1975) ("[T]here is no need to consider alternatives of speculative feasibility or altenatives which could only be implemented after significant changes, in governmental policy or legislation.").

The record reveals that defendants did consider the Pamlico Sound Bridge Corridor alternative in detail, including consideration of several means of financing the Bonner Bridge replacement. R. 58489-91, 83619-23, 82446-47 (considering the State Infrastructure Bank program, tolls, a public-private partnership, and Grant Anticipation Revenue Vehicles as possible sources of funding, and finding that each source would still not be adequate to meet the funding needs of the Pamlico Sound Bridge Corridor alternative). Therefore, each of plaintiffs' arguments as to adequate study of the Pamlico Sound Bridge Corridor alternative is inadequate to show arbitrary and capricious action on the part of defendants. Instead, the court finds that defendants rigorously and objectively evaluated this alternative, in compliance with NEPA. See 40 C.F.R. § 1502.14(a).

b. High Speed Ferry

Unlike the Pamlico Sound Bridge Corridor alternative, defendants did not study ferry alternatives in detail, but considered them to be unreasonable after brief examination. See 40 C.F.R.

§ 1502.14(a) (requiring agencies to evaluate "reasonable alternatives" and "briefly discuss the reasons" for eliminating unreasonable alternatives from "detailed study"). Plaintiffs argue that a high speed ferry option should have been considered for detailed study because it is a viable alternative. Defendants repeatedly considered ferry alternatives to be unreasonable. R. 8981-86, 9007-15, 12597-602, 30128-34, 58368-73, 92067, 92092-94. The use of a ferry was found to reduce traffic service across the Oregon Inlet when demand would be increasing, which would also increase evacuation time in case of an emergency. It would require dredging of either a three-mile route or an eighteen-mile route, which could have a substantial negative impact on the environment. R. 58368-71. Defendants thus decided not to study the ferry alternative in detail because it would be inadequate to meet demand. The agencies considered high-speed, shallow draft ferries, but found they still would not provide adequate service, in part because the faster travel times would not compensate for time required to load and unload ferries. R. 92092-93, 58369. Given these significant hindrances, defendants properly omitted high speed ferries from detailed study. See Webster, 685 F.3d at 427-28 (finding that it was proper for the agency to eliminate alternatives from detailed study for reasons such as technical feasibility, costs and effectiveness in achieving the purposes of the action complied with NEPA).

Plaintiffs further argue that because the high speed ferry alternative was a "significant alternative" suggested during the comment period, it must undergo detailed study. See Roosevelt Campobello Int'l Park Comm'n v. U.S. Envtl. Prot. Agency, 684 F.2d 1041, 1047 (1st Cir. 1982). However, a high speed ferry system was found to be unreasonable by the agencies, and thus may properly be eliminated from detailed study. See 40 C.F.R. § 1502.14(a); N.C. Wildlife Fed'n, 677 F.3d at 602 (recognizing that "agencies have discretion to identify the range of reasonable

alternatives") (internal quotation marks omitted).

B. Section 4(f) of the Department of Transportation Act

Plaintiffs allege that when the FHWA issued its Final Section 4(f) Evaluation, and in so doing selected its preferred alternative, it rejected a feasible and prudent alternative project design that would have eliminated the need to use the Refuge (i.e., the Pamlico Sound Bridge Corridor alternative).

Section 4(f) imposes substantive limits on the discretion of the United States Secretary of Transportation to approve federally-funded projects that use certain protected lands or resources. Specifically, Section 4(f) prohibits federal approval or funding of a transportation project that requires the use of protected land,[10] such as a wildlife and waterfowl refuge or public park, unless "(1) there is no prudent and feasible alternative to using that land; and (2) the program or project includes all possible planning to minimize harm to the [protected property] resulting from the use." 49 U.S.C. § 303(c). The Supreme Court has held that the existence of Section 4(f) "indicates that protection of parkland was to be given paramount importance." Citizens to Preserve Overton Park, Inc. v. Volpe, 401 U.S. 402, 412-13 (1971).

Thus, when confronted with the potential use of Section 4(f) resources, the FHWA must consider alternatives that avoid these resources. These avoidance alternatives become the preferred alternative unless they are shown to be infeasible or imprudent. An alternative is infeasible "if it cannot be built as a matter of sound engineering judgment." 23 C.F.R. § 774.17. An alternative is imprudent if:

[10] There is no dispute in this case that the Refuge would be used to build the Bonner Bridge replacement, therefore Section 4(f) analysis is triggered.

> (i) It compromises the project to a degree that it is unreasonable to proceed with the project in light of its stated purpose and need;
> (ii) It results in unacceptable safety or operational problems;
> (iii) After reasonable mitigation, it still causes:
> (A) Severe social, economic, or environmental impacts;
> (B) Severe disruption to established communities;
> (C) Severe disproportionate impacts to minority or low income populations; or
> (D) Severe impacts to environmental resources protected under other [f]ederal statutes;
> (iv) It results in additional construction, maintenance, or operational costs of an extraordinary magnitude;
> (v) It causes other unique problems or unusual factors; or
> (vi) It involves multiple factors in paragraphs [(i)] through [(v)] of this definition, that while individually minor, cumulatively cause unique problems or impacts of extraordinary magnitude.

Id.

If the FHWA has determined that there is no prudent and feasible alternative to using a given Section 4(f) property, the FHWA may approve, from among the remaining alternatives that do use the 4(f) property, only the alternative that causes the least overall harm. 23 C.F.R. § 774.3(c)(1). The least overall harm is determined by balancing the following factors:

> (i) The ability to mitigate adverse impacts to each Section 4(f) property (including any measures that result in benefits to the property);
> (ii) The relative severity of the remaining harm, after mitigation, to the protected activities, attributes, or features that qualify each Section 4(f) property for protection;
> (iii) The relative significance of each Section 4(f) property;
> (iv) The views of the official(s) with jurisdiction over each Section 4(f) property;
> (v) The degree to which each alternative meets the purpose and need for the project;
> (vi) After reasonable mitigation, the magnitude of any adverse impacts to resources not protected by Section 4(f); and
> (vii) Substantial differences in costs among the alternatives.

Id.

The Supreme Court in Overton Park prescribed a three-step analysis for a court reviewing the United States Secretary of Transportation's decision to use resources protected under Section

4(f). Overton Park, 401 U.S. at 416-17; see also Hickory Neighborhood Def. League v. Skinner, 893 F.2d 58, 61 (4th Cir. 1990) (following the Overton Park analysis to evaluate a Section 4(f) challenge to a highway project). First, the court determines whether the United States Secretary of Transportation recognized the scope of his authority was limited to approving a use of land protected by Section 4(f) where there was no reasonable and prudent alternative to such use and all possible planning had been undertaken to minimize the harm to the Section 4(f) resource. Overton Park, 401 U.S. at 416. Second, the court must determine whether the United States Secretary of Transportation's decision was based upon the relevant factors and was not arbitrary, capricious, an abuse of discretion, or not in accordance with law. Id. Although a searching and careful inquiry is required, the reviewing court is not to substitute its own judgment for that of the agency. Id. Third, the court must determine whether the United States Secretary of Transportation followed the necessary procedural requirements. Id. at 417.

1. Analysis of the Use of Protected Resources

Plaintiffs argue that FHWA's determination that Section 4(f) did not apply to the Refuge "as a refuge" but only as an historic property because NC 12 was planned jointly or concurrently with the Refuge is arbitrary and capricious. Section 4(f) does not apply to an otherwise protected property "[w]hen a property is formally reserved for a future transportation facility before or at the same time a park, recreation area, or wildlife and waterfowl refuge is established and concurrent or joint planning or development of the transportation facility and the Section 4(f) resource occurs." 23 C.F.R. § 774.11(i) (referred to as the joint planning exception).

FHWA's Revised Section 4(f) Evaluation explained that recent historical research showed that a public vehicular thoroughfare existed through the land that later became the Seashore and

Refuge, and that the road was concurrently and jointly planned and developed with the establishment of the Seashore and Refuge. R. 75564, 75567. Thus, Section 4(f) did not apply to the Seashore or Refuge as a refuge. Nevertheless, Section 4(f) remained applicable to the Refuge as an historic property because the Refuge is eligible for the National Register of Historic Places. Because Phase I of the Project would use approximately 3.08 acres of the Refuge, a Section 4(f) Evaluation document was required. Thus, the distinction FHWA made between the Refuge as a refuge and the Refuge as an historic property ultimately made little difference in terms of the Section 4(f) analysis that FHWA was required to undertake, and which FHWA appropriately completed.

Plaintiffs focus on the time between the establishment of the Refuge in 1938, Exec. Order No. 7864, 3 Fed. Reg. 863 (April 12, 1938), and the formal reservation of NC 12 in 1954 when the federal government granted an easement to North Carolina for a right of way to maintain a road. AR 108, 68658. However, there is evidence in the record showing joint or concurrent planning from 1938 when the Refuge was established. R. 102, 123, 142, 175-742, 83817-22.

The unimproved road through the Refuge is depicted on the United States Coast and Geodetic Survey map published in 1942 (based upon surveys through 1938). R. 78362. The road's existence is further supported by a 1939 public ferry permit application describing ferry service beginning in 1926, R. 104-22; photographs of the ferry carrying cars, R. 1-2; NC state highway maps from 1944, R. 253, and 1949 R. 587; and refuge manager reports mentioning the "public road" and/or describing work done to keep the public road passable in 1938, R. 103, 1940, R. 147, 1942, R. 190, 1943, R. 199, 1944, R. 212, 1945, R. 300, 1947, R. 451, 454, and 1949, R. 524.

In 1951, following a debate in which Senator Willis Smith from North Carolina asserted the State's ownership of the road across the Refuge and explained the State's desire to clear its title,

Congress passed Public Law 229, which authorized the United States Secretary of the Interior "to convey to the [s]tate of North Carolina a permanent easement for the construction of a public road (together with rights for such other uses as may be customary or necessary in the [s]tate of North Carolina in connection with the construction or operation of such a road) through the . . . Refuge in Dare County, North Carolina." R. 743-46. On May 20, 1954, the state granted a quitclaim deed to the United States for all interest that it had in the Refuge, excepted for a previously granted 100-foot easement for right-of-way to operate and maintain the recently constructed paved road. R. 75568, 75635-36. In July 1954, DOI conveyed a permanent easement to the state for the construction, operations, and maintenance of a public road across the Refuge. R. 75568, 75636. The easement stated that nothing in the document was to limit or impair the right of the United States to continue to use the property for its intended purposes "not inconsistent with the construction, operation, and maintenance of a public highway thereon." R. 77568, 75636.

Federal and state governments preserved the Hatteras Island area with an understanding that vehicular passage would be accommodated, and that the vehicular passage has not been fixed to one location, but has evolved in response to the forces of nature and advances in highway construction. R. 75569. Thus, FHWA properly relied on the joint planning exception with respect to the Refuge. See 23 C.F.R. § 774.11(i).

2. Feasible and Prudent Alternative Analysis

Plaintiffs challenge FHWA's conclusion that the Pamlico Sound Bridge Corridor alternative is not a feasible and prudent avoidance alternative because of issues with financing its high costs,

its impact on maintenance of the rest of North Carolina's highways and public access concerns.[11] To reach this conclusion, FHWA relied upon 23 C.F.R. § 774.17 (3)(iv) and (v), which allow the agency to consider "results in additional construction, maintenance, or operational costs of an extraordinary magnitude," and whether the alternative "causes other unique problems or unusual factors" which make that alternative imprudent.[12]

If built, the Pamlico Sound Bridge Corridor alternative would be the second longest bridge in the United States and one of the longest bridges in the world. It would also be "the most expensive single structure contract ever awarded in the country." R. 75711. Despite consideration of sources of funding through traditional and nontraditional means, FHWA was unable to find a way to pay for this alternative. R. 75700-711. The commitment of state and federal resources to the Pamlico Sound Bridge Corridor alternative could deprive the state of the ability to replace other deficient bridges and advance other needed construction projects for two to seven years, depending on the source of funding. R. 75703, 75709. Thus funding the Pamlico Sound Bridge Corridor alternative "would result in an increase in the number of deficient bridges in the state by around 2,000 by the year 2015." R. 75711. The state's roadway system would "substantially degrade" while the bridge was being constructed. R. 75712.

The public's access to and enjoyment of the Refuge also would be severely impacted, because vehicular access through the Refuge would be lost along with the visitor's center. R. 75712-

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[11] Plaintiffs also repeat the argument that potential funding sources were not adequately considered. This assertion is invalid for the reasons discussed supra Discussion Part A.3.a. FHWA thoroughly examined funding methods. See R. 75700-711.

[12] Although FHWA concluded that the Pamlico Sound Bridge Corridor alternative was not prudent, it did find that it was feasible because it could be designed and constructed. R. 75700. An avoidance alternative (meaning one that avoids use of refuge land) must be both prudent and feasible.

14. All of these factors in combination make the Pamlico Sound Bridge Corridor alternative not prudent as an alternative. See 23 C.F.R. § 774.17 (3); R. 75713.

3. Planning and Mitigation of Harm for use of Protected Land

Plaintiffs assert that the Project's segmentation under the Parallel Bridge Corridor with NC 12 Transportation Management Plan alternative avoids planning and analysis of minimizing harm to the Refuge. Section 4(f) permits the use of protected land if the "project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use." 49 U.S.C. § 303(c)(2). FHWA must identify from the alternatives, the one that causes the "least overall harm" according to the factors listed in 23 C.F.R. § 774.3(c)(1).

As discussed above, defendants did not engage in illegal segmentation, and FHWA reasonably concluded that there was no feasible avoidance alternative. After considering each of the listed factors for each of the remaining alternatives, FHWA concluded that the Parallel Bridge Corridor with NC 12 Transportation Management Plan was the alternative causing the least overall harm. R. 75576-82. Future environmental conditions will be more certain before decisions for later phases of construction are finalized. R. 75577, 75579-80, 75582. Thus, the Parallel Bridge Corridor with NC 12 Transportation Management Plan alternative will cause the least overall harm because it will provide the best opportunity to mitigate direct, indirect and cumulative impacts in the Project area. The interagency collaboration that the Project involves will lead to FHWA and NCDOT implementing actions that will cause the least overall harm to Section 4(f) resources for future phases of construction when changing shoreline conditions are more certain. R. 75582.

FHWA also conducted all possible planning to minimize harm. R. 75582-90. The Project includes a host of mitigation measures. R. 91976-81. With respect to the Refuge, examples of the

efforts that FHWA took to minimize harm include commitments regarding sedimentation and erosion control methods, disposal of dredged material, surveys for seabeach amaranth habitat, avoidance of piping plover bird closure areas and sea turtle nests within the Seashore and Refuge, prohibiting repair work on bridge structures during piping plover and sea turtle nesting seasons, and avoiding and minimizing wetland impacts. R. 75582-90, 91978-81.

Additionally, throughout the development of the Project, the Merger Team process served to identify all possible planning to minimize harm to Section 4(f) properties. R. 75582. The Merger Team framework will rely on monitoring of coastal and natural resources to identify specific issues and involve relevant stakeholders in identifying optimal solutions. R. 77582. When coastal and environmental monitoring indicates a future problem for the NC 12 transportation corridor, the Merger Team will convene to identify an appropriate response strategy. R. 75590. Further, a Programmatic Agreement signed by FHWA, SHPO, and the Advisory Council on Historic Preservation contains numerous measures to minimize harm with respect to the Refuge as an historic property. R. 75586, 91977, 91982, 92102-17. The terms of the agreement include offering the SHPO, USFWS, and NPS an opportunity to review and comment on the plans and specifications for NC 12, requiring NCDOT to develop and implement sustainable techniques to protect NC 12 in consultation with FHWA, USFWS, NPS, SHPO, and the North Carolina Coastal Geological Cooperative, and a commitment to utilizing the best practices and measures available at the time of construction to minimize all impacts to historic properties. R. 75586-87. Moreover, if a later phase of construction requires the use of Section 4(f) property, additional Section 4(f) analysis would be undertaken before the agency approves the later phase. R. 75590.

Plaintiffs assert that the phased method allows FHWA to select road maintenance methods

that will harm the Refuge later in the process. However, FHWA's reasoned determination to defer the selection of specific elements of a NC 12 Transportation Management Plan is not an avoidance of planning to minimize harm to the Refuge. Rather, it is a practical means of addressing the changing natural conditions in the Project area. Therefore, FHWA's findings were not arbitrary and capricious, and the court finds that FHWA has satisfied the requirements of Section 4(f).

CONCLUSION

For the foregoing reasons, plaintiffs' motion for summary judgment is DENIED (DE 74), and defendants' cross-motions for summary judgment are GRANTED (DE 79, 81). The clerk is directed to close this case.

SO ORDERED, this the 16th day of September, 2013.

LOUISE W. FLANAGAN
United States District Court Judge

Glossary

APA. . . . . Administrative Procedure Act
DEIS. . . . . Draft Environmental Impact Statement
DOI. . . . . United States Department of the Interior
EA. . . . . Environmental Assessment
EIS. . . . . Environmental Impact Statement
EPA. . . . . United States Environmental Protection Agency
FEIS. . . . . Final Environmental Impact Statement
FHWA. . . . . Federal Highway Administration
LEDPA. . . . . Least Environmentally Damaging Practicable Alternative
NC 12. . . . . North Carolina Highway 12
NCDENR. . . . . North Carolina Division of Environment and Natural Resources
NCDOT. . . . . North Carolina Department of Transportation
NEPA. . . . . National Environmental Policy Act
NMFS. . . . . National Marine Fisheries Service
NPS. . . . . National Park Service
Project. . . . . NC 12 Replacement of Herbert C. Bonner Bridge
Refuge. . . . . Pea Island National Wildlife Refuge
ROD. . . . . Record of Decision
SDEIS. . . . . Supplemental Draft Environmental Impact Statement
Seashore. . . . . Cape Hatteras National Seashore
Section 4(f). . . . . Section 4(f) of the Department of Transportation Act
SEIS. . . . . Supplemental Environmental Impact Statement
SHPO. . . . . North Carolina Department of Cultural Resources, State Historic Preservation Office
SSDEIS. . . . . Supplement to the Supplemental Draft Environmental Impact Statement
USACE. . . . . United States Army Corps of Engineers
USFWS. . . . . United States Fish and Wildlife Service